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**REMARKS**

Favorable reconsideration of this application, as amended herein, is respectfully requested. Claims 1 through 86 remain in the application. Independent claims 1, 16, 31, 69, 77 and 78 and dependent claims 14 and 18 are modified pursuant to this amendment.

In the Office Action dated April 5, 2004, the Examiner rejected claims 1-8 and 10-86 under 35 U.S.C. § 103(a) as being made obvious by the teachings of De Tore et al. (4,975,840) in view of Seare et al. (6,223,164) and Hammond (5,613,072). The applicant respectfully disagrees with Examiner's analysis and points out that the claimed invention, as it is recited in the amended claims and described in the specification, is not disclosed or rendered obvious by the combined teachings of De Tore, Seare and Hammond.

Examiner interpreted disclosure in De Tore, at col. 23, lines 1-34 and col. 25, lines 1-68, as describing various injuries as "a form of time of injury in a progressive time line." *See* Office Action, page 3, line 7-9. The applicant respectfully disagrees with this analysis and points out that De Tore, either alone or in combination with Seare and

Hammond, does not disclose a plurality of profiles estimating and predicting the degree of dysfunction into the future by "estimating the dysfunction level and the capacity of at least one body part from the time of injury over a specific progressive time scale into the future."

At col. 23, lines 1-34, De Tore depicts an ECG (electrocardiogram), which shows the beating of a heart over time. It is not a "profile" of the current invention, comprising information and knowledge regarding future estimate of dysfunction from a medical condition or injury. First, the ECG shown in De Tore is a real time representation of someone's actual heart beat, rather than a generalized estimation of the future capacity of a body part. Second, it is a depiction of the past performance or condition; not a forward prediction. Third, there is no time-dependent estimate of a future level of dysfunction mentioned in De Tore.

In this section, De Tore also refers to hypertensive retinopathy and heart enlargement as complications due to hypertension (high blood pressure). The second paragraph describes hypertensive retinopathy and mentions various consequences of the disease, such as focal spasm, etc. It describes how the disease can be divided into grades depending on the symptoms. However, it does not teach or describe the estimated development of the disease over a specific time scale, nor even mention estimating the degree of dysfunction of the visual system (or the eyes) into the future. Furthermore, De Tore does not teach or mention use of dysfunction profiles that would predict a realistic expectation of the future progression of the dysfunction of body parts arising from an injury, treatment, complication or aggravated pre-existing condition. Thus, it does not anticipate or render obvious the attributes of a dysfunction profile recited in the amended

claims of the current invention.

Also, at col. 23, paragraph 4, De Tore describes heart enlargement and heart abnormalities consequent to hypertension. There is also a diagnostic test defined for ventricular hypertrophy. The graphs presented (ECG) show the electrical activity of an unknown individual's actual heart at the present time. A doctor, typically a cardiologist, would have to interpret the ECG graph to evaluate and arrive at an estimate for the current dysfunction of that individual's heart. There is nothing in this section that teaches or suggests use of dysfunction profiles in accordance with the current invention, to predict and estimate the dysfunction level of the heart, nor how this dysfunction varies in the future over a specific time scale (or timeline).

At col. 25, lines 1-9, De Tore refers to and describes accelerated hypertension – a change in blood pressure. It does not mention or suggest use of a dysfunction profile that would estimate the development of the disease over a specific time scale, estimate the degree of dysfunction or predict a realistic expectation of the future progression of the dysfunction. The rest of the passage at col. 25-26 refers to blood pressure and the procedure for taking it reliably. The graph shown in col. 25-26 illustrates the concept of averaging blood pressure over a one-year period. It depicts three trends by simple straight lines: the blood pressure improving, remaining unchanged and worsening over a period of 4 years. This depiction is presented to demonstrate the concept of taking of a one year average measurement (shown at the top of the graph). In fact, De Tore expressly suggests that the "resulting one-year average blood pressure should be used in the table to determine the debits." *See* De Tore, col. 25-26, lines 18-19 (emphasis added). This graph and accompanying text do not teach or suggest the

dysfunction profiles of the current invention, which estimate and predict changes in the dysfunction level or percentage over a specific time period in the future. The applicant would also like to point out that the Y axis in the graph shown at col. 25-26 is labeled “BP Level”; not the estimated or predicted level of dysfunction. Furthermore, there is no such thing as BP Level, or blood pressure level. Blood pressure involves two numbers, the systolic and the diastolic readings. Thus, this graph does not suggest to a person skilled in the pertinent art (nor is it intended to realistically depict or teach) how to utilize future estimates and projections of how blood pressure would worsen or improve over a specific time scale (or timeline) in the future, following a traumatic event (injury).

In the Office Action (page 3, lines 18-22), it is stated that Seare teaches at col. 20, lines 35-67 to col. 21, line 43, one aspect of the current invention that pertains to "relating said selected profile's time dimension to the occurrence of its said transient medical condition." *See* Office Action, page 3, lines 15-17. The applicant respectfully disagrees with the Examiner and points out that Seare teaches a totally different use of profiles, comprising different information and aimed at different results. Seare describes a system for analyzing medical services utilization patterns. Its aim and purpose is concerned with analysis and optimization of treatments and associated costs, *i.e.*, how many doctor visits and what treatment are prescribed following a medical condition. *See* Seare col. 5, lines 38-44. It is concerned with determining whether the medical services rendered are usual and customary. Seare achieves this by providing "profiles" compiled statistically from a pattern of medical service, *i.e.*, historical collection of doctor's visits and rendered medical services. Each profile is built strictly based on "an episode of care," which consists of all past medical treatments and past visits to the doctor's office

(or hospital). *See* Seare col. 23, lines 9-36 (emphasis added). Unlike the current invention, there is no suggestion or requirement of providing and maintaining information concerning the (1) estimated future dysfunction level of individual body parts, (2) estimates of their progressive recovery rate over time in the future, and (3) representation of injury and estimate of future recovery as dysfunction levels over time.

The profiles described by Seare at col. 4, lines 54-57 are totally different from the dysfunction profiles of the invention, as recited in the amended claims. The profiles used by Searle contain a number of treatment codes. These are generated by examining the past real episodes of care of real people, who stayed in hospital or received medical treatment. For example, if one went to hospital for an appendectomy, then a number of medical services would be performed, such as ordering of x-ray imaging, an appendectomy operation, consumables used in the operation, review in post-operative care, stay in a surgical ward, review by surgeon, 6 physical therapy treatments, etc. Seare teaches and suggests averaging and aggregating all appendectomies into one profile for an appendectomy. The information that a profile in Seare would contain is a collection of medical codes, both treatment and HCPCS codes. Thus, Seare teaches use of profiles that consist of a collection of medical codes derived statistically from the real patients' actual past stays in the hospital or doctor visits. His invention pertains to the means of developing the average set of codes, and a means of retrieving and comparing them to the current treatment.

Even if combined, De Tore and Seare do not teach or suggest use of the dysfunction profiles that estimate, relate and predict the changing dysfunction level of body parts over time scale in the future, arising from the time of injury. As discussed

above, Seare teaches comparison of profiles that are a collection of medical codes derived statistically from real patients' past hospital stays and doctor visits, and developing the average set of codes. De Tore teaches and describes a "life underwriting" system, whose purpose and result is to permit the underwriter to determine whether to underwrite a particular life insurance policy. *See* De Tore, col. 1, lines 7-9. It accomplishes this goal by assigning certain weights to various risk factors and evaluating based on the standard life insurance rates. *See* De Tore, col. 14, lines 12-39; col. 15, lines 8-14. For the purposes of underwriting analysis, the applicant is presumed to be medically stable, and an injured person would not be underwritten for the life insurance in accordance with the system taught by De Tore. Furthermore, De Tore teaches to relate the medical conditions of a person to the past "medical history" of the person being evaluated "on the basis of information contained in the underwriting database," which assigns risk factors to certain conditions. *See* De Tore, col. 5, line 57 - col. 6, line 2. Then, after evaluating "medical history" factors, the life underwriting system in De Tore makes a recommendation as to the most likely impairments to underwrite (*i.e.*, guiding the underwriting decision) *See* De Tore, col. 11, lines 17-20. Thus, even if combined, De Tore and Seare would teach and suggest use of profiles that contain information about past medical history, and perhaps averaging and weighting the particular elements for the purposes of underwriting analysis; not use of profiles to estimate, relate and predict the dysfunction levels of body parts over specific time scale into the future, arising from the time of injury.

Finally, the Hammond patent involves a system for funding future losses by an insurance carrier on active worker's compensation insurance claims, and it does not describe any of the above-mentioned features of the current invention.

The applicant also notes with respect to claims 3, 69 and 78 that De Tore simply describes multiple body organs affected by impairment, but does not describe a body part hierarchy. De Tore teaches at col. 19, lines 18-42 that an impairment can impact a collection of body systems of organs. In contrast, the current invention defines a composite body part hierarchy. For instance, the hand is a composite body part. It comprises component body parts of the thumb, index, middle, ring and little fingers, the palmar and dorsal hands. If the thumb is injured, the current invention automatically determines how the hand as a whole is affected, and automatically models the future recovery for both the thumb and the hand, as consequence of that injury to the thumb, *i.e.*, related component. There is no teaching in De Tore, Seare or Hammond of this type of hierarchical organization of body parts and automatic modeling for composites and related components in a body part hierarchy. The claims have been amended to clarify the above-mentioned important distinction between the current invention and teachings of De Tore, Seare and Hammond.

In view of the foregoing amendments and remarks, applicant respectfully submits that the amended claims 1-86 are in condition for allowance. Applicant hereby respectfully requests entry of this Amendment and an early favorable action on the merits.

**CERTIFICATE OF MAILING**

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DATE: September 7, 2004

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